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Our ref: KON-1818 Client's ref: P-6211-001-0000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: K. NAKAMURA et al	:	Art Unit: 1752
Appln. No. : 10/657,509	:	
Filed : September 8, 2003	:	Examiner: T. Chea
Title : SILVER SALT PHOTOTHERMO-GRAPHIC DRY IMAGING MATERIAL	:	

DECLARATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S i r:

I, Kiyoshi Fukusaka, hereby declare and say as follows:

1. I am one of the named Inventors in the above-identified Application.

2. I received a Masters Degree in Chemistry from the University of Tsukuba in 1997. Since that time, I have been employed by Konica Corporation (now Konica Minolta Medical & Graphic, Inc.) the Assignee of the above-identified Application. During my employment at Konica, I have engaged in the research and development of photographic materials.

3. I am aware of the fact that the Examiner has commented on my previous Declaration concerning the upper and lower limits for the molar ratio of the compound represented by Formula (3) to the compound represented by Formula (1), β/α molar ratio as recited in the claims of 0.001 to 0.2. I am also aware that the Examiner has stated that the Application doesn't support the limitation of pure behenic acid for the light-insensitive organic silver salt grains.

4. With respect to behenic acid, I note that in the paragraph bridging pages 41 and 42 of this application that behenic acid by itself is specifically listed as one of the aliphatic carboxylic acids that can be used to make the silver salts. I note that in the examples of this application, a combination of behenic acid with arachidic acid, stearic acid and palmitic acid were employed, see the first few lines on page 117. In order to demonstrate that this invention works not only with behenic acid mixed with

other acids, tests have been run with behenic acid alone and the results of these tests are reported in this declaration.

5. Additional test have been run to demonstrate the β/α molar ratio at both ends of the claimed range, namely at 0.001 and 0.2 to demonstrate that the invention works at both ends of the claimed range and to provide objective evidence to support the full claimed range for this molar ratio. These tests are reported in this Declaration.

6. All of the tests reported herein were performed by me or under my direct supervision and control.

7. For the tests relating to behenic acid, samples 105-2, 106-2, 107-2, 109-2, and 110-2 were prepared in an identical manner to examples 105, 106, 107, 109, and 110, respectively, as reported in this application in example 1 starting on page 110, except that for the powdery organic silver salt as recited on page 117, 259.5 g of behenic acid was used in place of the combination of the behenic, arachidic, stearic, and palmetic acids. Otherwise, the Formulations and the procedures for the samples 105, 106, 107, 109, and 110 were followed as recited in the application.

8. Each one of the samples prepared was evaluated in the same manner as recited in the specification on pages 124-127. The results form these evaluations are reported in table 10 attached hereto.

9. As can be seen from table 10, samples 105-2, 106-2, 107-2, 109-2, and 110-2 achieved improved photographic characteristics and superior image stability. Thus, I submit that the data in table 10 evidences the fact that a silver salt of behenic acid alone clearly provides results in the present invention.

10. In order to test the end limits for the molar ratio of the compound of Formula (3) to the compound of Formula (1), samples 24-27 were prepared. Photographic material samples 24 and 25 were prepared identical to sample 16 of my previous Declaration of October 2, 2006, except for the fact that the amount of hindered phenol compound (2-3) was varied to provide a β/α molar ratio at each end of the claimed range. Photographic material samples 26 and 27 were prepared identical to sample 20 from my previous Declaration filed October 2, 2006, except that the amount of hindered phenol compound (2-3) was varied to result in a β/α molar ratio at each end of the claimed range. The specific amount of hindered phenol that was employed is shown in table 8A as attached hereto. In order to assist

the Examiner in evaluating these new tests, samples 24-27, with the data from my previous Declaration, I have incorporated in table 8A the data from my previous Declaration.

11. Samples 24-27 were evaluated in the same manner as samples 15-23 from my previous Declaration and the results from these evaluations are recorded in table 9A attached hereto. In order to assist the Examiner in evaluating the results from samples 24-27 with the results from my previous Declaration I have incorporated in table 9A as attached hereto the data from my previous Declaration.

12. As can be seen, samples 24-27 resulted in superior photothermographic material having superior image stability compared to the photothermographic having a molar ratio outside the claimed range. It will be noted that samples 24 and 25 had superior light fastness of image color compared to samples 16 and 19 which fell outside the claimed range. The same can also be seen for samples 26 and 27 versus samples 20 and 23. Thus, it can be seen that at the two ends of the claimed range, superior results were still obtained.

13. It is declared by undersigned that all statements made herein of undersigned's own knowledge are true and that all

statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the U.S. Code; and that such willful false statements

may jeopardize the validity of this Application or any patent issuing thereon.

Kiyoshi Fukusaka

Dated: This day of , 2006.

Encl: Table 8A
Table 9A
Table 10

DCL/ns

Table 8A

Sample No.	Reducing Agent (α) (10^{-1}mol/mol Ag)	Hindered Phenol (β) (10^{-3} mol/mol Ag)	β/α (molar ratio)	Remark
15	1-1* (4.0)	2-3* (8.0)	0.02	Comp.
16	1-1 (4.0)	2-3* (0.16)	0.0004	Comp.
24	1-1 (4.0)	2-3* (0.4)	0.001	Inv.
17	1-1 (4.0)	2-3* (0.8)	0.002	Inv.
18	1-1 (4.0)	2-3* (64.0)	0.16	Inv.
25	1-1 (4.0)	2-3* (80.0)	0.20	Inv.
19	1-1 (4.0)	2-3* (100.0)	0.25	Comp.
20	1-33 (4.0)	2-3* (0.16)	0.0004	Comp.
26	1-33 (4.0)	2-3* (0.4)	0.001	Inv.
21	1-33 (4.0)	2-3* (0.8)	0.002	Inv.
22	1-33 (4.0)	2-3* (64.0)	0.16	Inv.
27	1-33 (4.0)	2-3* (80.0)	0.20	Inv.
23	1-33 (4.0)	2-3* (100.0)	0.25	Comp.

1-1*: compound (1-1) of Fukui
2-3*: compound (2-3) of Fukui

Table 9A

Sample No.	Unaged Sample					Image Lasting Quality (810 nm)			Light Fastness of Image Color	Remark
	Fog (810 nm)	Sensitivity		D_{max}		h_{ab} (810 nm)	D_{min} (%)	D_{max} (%)	h_{ab}		
		810 nm	814 nm	810 nm	814 nm					
15	0.230	100	82	100	80	190	150	82	160	1.0	Comp
16	0.180	120	110	122	111	210	102	91	210	2.0	Comp
24	0.170	123	117	123	121	245	101	96	245	5.0	Inv.
17	0.170	123	118	124	121	250	101	96	250	5.0	Inv.
18	0.170	122	117	123	121	255	101	96	255	5.0	Inv.
25	0.170	122	117	122	120	255	101	95	255	5.0	Inv.
19	0.200	120	109	122	112	270	102	92	270	2.0	Comp.
20	0.190	118	108	120	110	210	104	90	210	1.5	Comp.
26	0.180	119	113	121	116	245	103	95	240	4.0	Inv.
21	0.180	121	115	122	117	245	102	95	240	4.0	Inv.
22	0.180	120	115	122	116	250	102	95	250	4.0	Inv.
27	0.180	120	114	122	115	250	102	95	255	4.0	Inv.
23	0.205	119	108	121	110	270	103	90	270	1.5	Comp.

Table 10

Sample No.	Unaged Sample					Image Lasting Quality (810 nm)			Remark
	Fog (810 nm)	Sensitivity		D_{max}		h_{ab} (810 nm)	D_{min} (%)	D_{max} (%)	h_{ab}	
		810 nm	814 nm	810 nm	814 nm					
105-2	0.180	114	105	109	104	220	104	98	220	Inv.
106-2	0.175	115	110	110	105	225	105	98	220	Inv
107-2	0.180	114	109	109	105	220	105	99	220	Inv.
109-2	0.180	115	109	110	104	260	101	98	250	Inv.
110-2	0.170	115	111	111	107	260	101	98	250	Inv.